C 5900M
C 5900M/TM 40

Bedienungsanleitung. . . . . S. 2
Bitte vor Inbetriebnahme des Gerätes lesen!

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Please read the manual before using the equipment!

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Veuillez lire cette notice avant d'utiliser le système!

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Prima di utilizzare l'apparecchio, leggere il manuale

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¡Sirvase leer el manual antes de utilizar el equipo!

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Por favor leia este manual antes de usar o equipamento!

1 Precaution/Description

1.1 Precaution

Please make sure that the piece of equipment your microphone will be connected to fulfills the safety regulations in force in your country and is fitted with a ground lead.

1.2 Unpacking

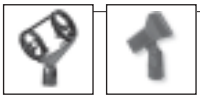
1 C 5900M or C 5900M/TM 40	**1 SA 61**	**1 Carrying case**

Check that the packaging contains all of the components listed above. Should anything be missing, please contact your AKG dealer.

1.3 Optional Accessories

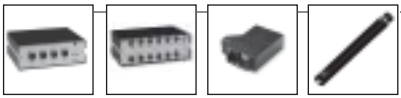
• **MK 9/10** microphone cable: 10 m (30 ft.) 2-conductor shielded cable with 3-pin male and 3-contact female XLR connectors

• **TM 40** transmitter module
• **W 23, W 3001** windscreens



• **H 30** universal elastic suspension, **SA 26** stand adapter

• **ST 102A, ST 200, ST 305** floor stands



• **N 62, N 66, B 18, B 15** phantom power supplies

1.4 Features

- Frequency response tailored to vocal use.
- Integrated wind and pop screen for effective suppression of pop and breath noise.
- Switchable bass cut filter for suppression of low-frequency rumble.
- Selectable 0 dB or +6 dB output level.
- Frequency independent supercardioid polar pattern for high gain before feedback.
- Backplate condenser transducer for crisp sound.
- Built-in spider type transducer shock mount for handling and cable noise compensation.

- Extremely resilient, spring-steel wire-mesh cap for extra impact resistance.
- Installation slot for optional TM 40 transmitter module.

The AKG **C 5900M** is a supercardioid condenser microphone designed for vocal use on stage. A slight sensitivity peak between 3 kHz and 15 kHz provides good intelligibility and will make your voice cut through the loudest mix on stage.

A rugged front grill made of spring-steel wire mesh that is extremely resistant to deformation and a sturdy zinc alloy die-cast body effectively protect the microphone and transducer element from damage on stage and on the road.

A level selector (1) allows you to boost the microphone's output level by 6 dB to match the signal level to less sensitive inputs. A switchable bass cut filter (2) (-12 dB/octave from 100 Hz) effectively reduces low-frequency rumble.

The microphone element uses a proven backplate condenser transducer. Similar to an anechoic chamber, an absorption ring of synthetic rubber at the back of the capsule prevents reflections within the capsule that might degrade the frequency response. An integrated spider type shock mount on the transducer element effectively suppresses handling and cable noise. An internal windscreen reduces pop, wind, and breath noise to a minimum.
The C 5900M features a removable connection module with a 3-pin XLR connector. You can connect the microphone to both balanced and unbalanced mixer or amplifier inputs.

1.5 C 5900M, C 5900M/TM 40

The microphone body has been specifically designed for fatigue-free handling and ease of use. No matter what microphone technique you use, the microphone will always settle comfortably into your hand.

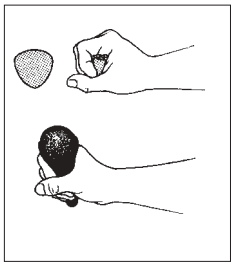


Fig. 1:
Ergonomically optimized shape.

1 Description

Fig. 2: Optional TM 40 transmitter module.

You can easily convert the microphone into a wireless microphone. All you need to do is remove the XLR connector module and replace it with an optional TM 40 transmitter module.

2 Interfacing

2.1 General

The C 5900M is a condenser microphone and therefore needs a power supply.
The microphone provides a balanced output on a 3-pin male XLR connector:

Pin 1: ground
Pin 2: hot
Pin 3: return

Refer to sections 2.2 and 2.3.

You can connect the microphone either to a balanced microphone input with or without phantom power or an unbalanced microphone input.

2.2 Input with Phantom Power

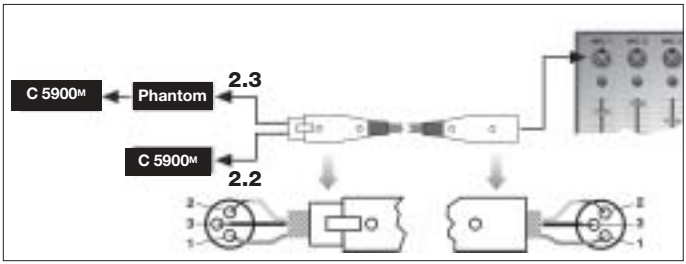


Fig. 3: Connecting to a balanced input.

Refer to fig. 3.

1. Use an XLR cable (e.g., the optional MK 9/10 from AKG) to connect the microphone to a balanced XLR input with phantom power.
2. Switch the phantom power on. (Refer to the manual of the unit to which you connected your microphone.)

2.3 Input with No Phantom Power

Refer to fig. 3.

1. If your mixer provides no phantom power, connect an optional AKG phantom power supply (N 62 E, N 66 E, B 18, B 15) between the microphone and the mixer.

Using any power supply other than those recommended by AKG may damage your microphone and will void the warranty.

Important!

2.4 Unbalanced Input

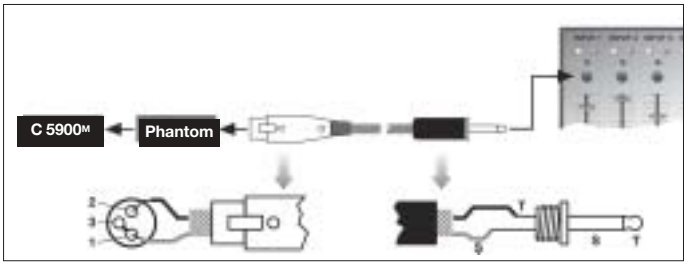


Fig. 4: Connecting to an unbalanced input.

You may connect AKG phantom power supplies to unbalanced inputs, too.

Refer to fig. 4.

Use a cable with a female XLR connector and TS jack plug:
1. On the XLR connector, use a wire bridge to connect pin 1 to pin 3 and the cable shield.
2. Connect the inside wire of the cable to pin 2 on the XLR connector and the tip contact of the jack plug.

Note:

Unbalanced cables may pick up interference from stray magnetic fields near power or lighting cables, electric motors, etc. like an antenna. This may introduce hum or similar noise when you use a cable that is longer than 16 feet (5 m).

2.5 Optional TM 40 Transmitter Module

The optional TM 40 transmitter module allows you to convert your microphone into a wireless microphone that you can use with any WMS 40 Series receiver from AKG.

Start by removing the XLR connector module:

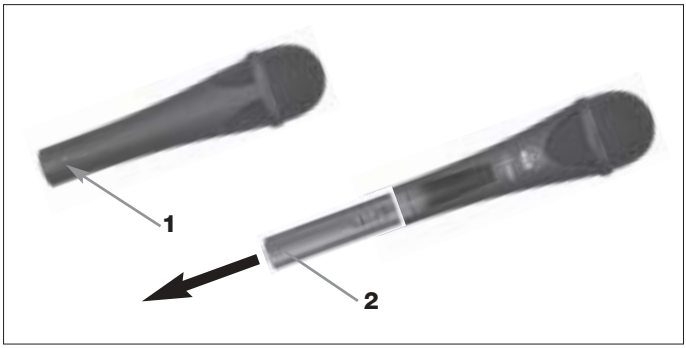


Fig. 5: Removing the XLR connector module.

1. Open the fixing screw (1).

Refer to fig. 5.

Refer to fig. 5.

2. Pull the XLR connector module (2) out of the microphone body.
3. To avoid losing the fixing screw (1), screw it into the threaded hole (3) in the XLR connector module.

Install the transmitter module:

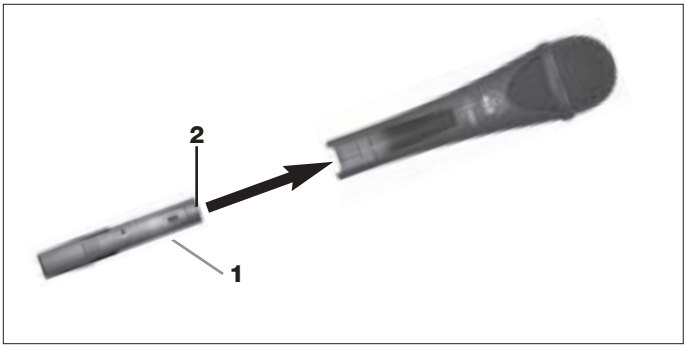


Fig. 6: Installing the transmitter module.

Refer to fig. 6.

1. Do not forget to check the condition of the battery inside the transmitter module. If the battery is dead or there is no battery inside the transmitter module, insert a new battery.
2. Hold the transmitter module (1) to align the contacts (2) with the microphone.
3. Slide the transmitter module (1) into the microphone body to the point that the transmitter module (1) will lock with an audible click.
   As the transmitter module locks in place, the electrical connections to the microphone are made automatically.

Note:

For details on inserting, replacing, and testing the battery as well as setting up and operating the transmitter module refer to the TM 40 transmitter module manual.

Replacing the transmitter module with the XLR connector module:

1. Insert a ball point pen, small screwdriver, or similar pointed object into the opening (1) in the microphone body and press inward.
   The transmitter module (2) will unlock and slide out of the microphone body for about 0.1 inch.
2. Pull the transmitter module (2) out of the microphone.

Refer to fig. 7.

3. Unscrew the fixing screw (4) from the XLR connector module (3).
4. Slide the XLR connector module (3) into the microphone body to the stop.
5. To fix the XLR connector module (3), screw the fixing screw (4) down firmly.

2 Interfacing

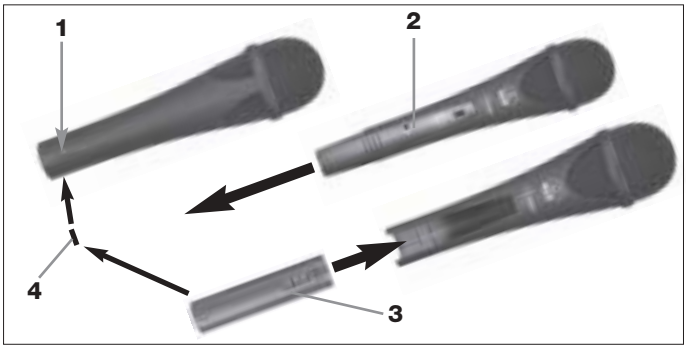


Fig. 7: Removing the transmitter module.

Alternatively, you can remove the transmitter module simply by pulling it out of the microphone body with just enough force to unlock it. Make sure not to grasp the transmitter module by the battery compartment. (If you did, you would only open the battery compartment.)

Note:

3 Using Your Microphone

3.1 Introduction

A handheld vocal microphone provides many ways of shaping the sound of your voice as it is heard over the sound system.
The following sections contain useful hints on how to use your microphone for best results.
The following sections apply to both the hardwire C 5900M and the wireless version with an optional TM 40 transmitter module installed.

3.2 Working Distance and Proximity Effect

Basically, your voice will sound the bigger and mellower, the closer you hold the microphone to your lips. Moving away from the microphone will produce a more reverberant, more distant sound as the microphone will pick more of the room's reverberation.
You can use this effect to make your voice sound aggressive, neutral, insinuating, etc. simply by changing your working distance.
Proximity effect is a more or less dramatic boost of low frequencies that occurs when you sing into the microphone from less than 2 inches. It gives more "body" to your voice and an intimate, bass-heavy sound.

3 Using Your Microphone

3.3 Angle of Incidence

Fig. 8: Typical microphone position.

Sing to one side of the microphone or above and across the microphone's top. This provides a well-balanced, natural sound.
If you sing directly into the microphone, it will not only pick up excessive breath noise but also overemphasize "sss", "sh", "tch", "p", and "t" sounds.

3.4 Feedback

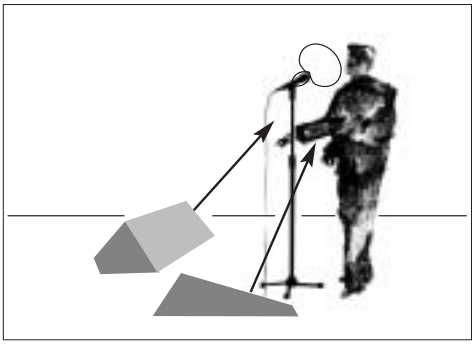


Fig. 9: Microphone placement for maximum gain before feedback.

Feedback is the result of part of the sound projected by a speaker being picked up by a microphone, fed to the amplifier, and projected again by the speaker. Above a specific volume or "system gain" setting called the feedback threshold, the signal starts being regenerated indefinitely, making the sound system howl and the sound engineer desperately dive for the master fader to reduce the volume and stop the howling.
To increase usable gain before feedback, the microphone has a supercardioid polar pattern. This means that the microphone is most sensitive to sounds arriving from in front of it (your voice) while picking up much less of sounds arriving from the sides or rear (from monitor speakers for instance).main ("FOH") speakers in front of the microphones (along the front edge of the stage).

Refer to fig. 9.

If you use monitor speakers, be sure never to point any microphone directly at the monitors, or at the FOH speakers.
Feedback may also be triggered by resonances depending on the acoustics of the room or hall. With resonances at low frequencies, proximity effect may cause feedback. In this case, it is often enough to move away from the microphone a little to stop the feedback.

3 Using Your Microphone

3.5 Backing Vocals

1. Never let more than two persons share a microphone.
2. Ask your backing vocalists never to sing more than 35 degrees off the microphone axis.
   The microphone is very insensitive to off-axis sounds. If the two vocalists were to sing into the microphone from a wider angle than 35 degrees, you may end up bringing up the fader of the microphone channel far enough to create a feedback problem.

Fig. 10: Two vocalists sharing a microphone.

4 Cleaning

4.1 Microphone Body

To clean the surface of the microphone body, use a soft cloth moistened with water.

4.2 Internal Windscreen

1. Unscrew the front grill from the microphone CCW.
2. Remove the windscreen from the from grill and wash the windscreen in soap suds.
3. Allow the windscreen to dry overnight.
4. Replace the windscreen in the front grill and screw the front grill on the microphone CW.

5 Troubleshooting

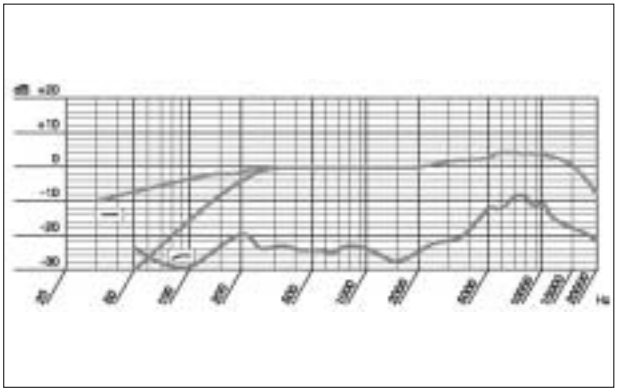
Problem	Possible Cause	Remedy
No sound.	1. Power to mixer and/or amplifier is off. 2. Channel or master fader on mixer, or volume control on amplifier is at zero. 3. Microphone is not connected to mixer or amplifier. 4. Cable connectors are seated loosely. 5. Cable is defective. 6. No supply voltage. 7. Transmitter module is off or muted. 8. No/dead battery in transmitter module. 9. Receiver is off or not connected to mixer.	1. Switch power to mixer or amplifier on. 2. Set channel or master fader on mixer or volume control on amplifier to desired level. 3. Connect microphone to mixer or amplifier. 4. Check cable connectors for secure seat. 5. Check cable and replace if damaged. 6. Switch phantom power on. Phantom power supply: connect to power outlet or insert battery (batteries). Check cable and replace if necessary. 7. Switch transmitter module on. 8. Insert new/fully charged battery. 9. Switch receiver on or connect to mixer.
Distortion.	1. Gain control on mixer or transmitter module not set correctly. 2. Mixer input sensitivity too high.	1. Set gain control to stop distortion. 2. Insert 10 dB preattenuation pad between microphone cable and input.
Microphone sound becomes duller by and by.	• Internal or external windscreen attenuates high frequencies when soiled.	• Clean internal or external windscreen.

6 Specifications

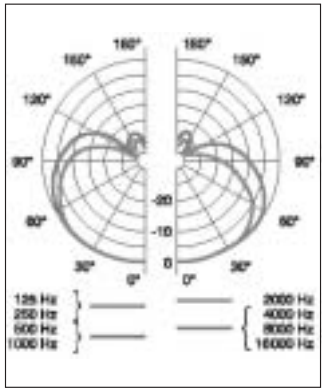
Type:	condenser microphone
Polar pattern:	supercardioid
Frequency range:	20 Hz to 20 kHz
Sensitivity at 1 kHz:	6 mV/Pa (-44 dBV re 1 V/Pa)
Impedance:	≤200 Ω
Recommended load impedance:	≥2000 Ω
Max. SPL for 1%/3% THD:	139/142 dB SPL
Equivalent noise level:	17.5 dB (A) (to DIN 45412)
Power requirement:	9 to 52 V universal phantom power
Current consumption:	approx. 2 mA
Connector:	3-pin male XLR
Finish:	matte black
Size:	length: 186 mm (7.3 in.) max. dia.: 50 mm (2 in.)
Net/shipping weight:	290 g (10.2 oz.) / 970 g (2.2 lbs.)

This product conforms to EN 50 082-1 provided it is connected to equipment with a CE sign.

Frequency Response



Polar Diagram



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